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DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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December 6, 1991

Mr. Thomas H. Shore
District Ranger
Manti-LaSal National Forest
150 South Main 6-4
Ephraim, UT 84637

Re: Deficiency Review, Notice of Intention to Commence Large Mine Operations, H.E. Davis and Sons, Inc., Henry 1 & 2 Mine, M/023/023, Juab County, Utah

Dear Mr. Shore:

The Division has reviewed the plan of operations submitted to your office, in August of 91, by H.E. Davis and Sons, Inc. Our apologies for not responding to this submittal earlier. The Division has found deficiencies in the plan. The following comments have been formatted to correspond to the various sections of our Minerals Rules where deficiencies exist:

R613-004-105: - Maps, Drawings & Photographs

105.2.11: - Proposed surface facilities

Are there any power poles or substations located on the site? If any exist they may have to be removed at the end of mining and must be addressed as such in the plan? The current disturbed area border needs to be clearly marked on the maps provided by the operator. This boundary must include state, private and federal property. - AAG and HWS

Drainage control structures must be identified by the operator on the site map (large scale), if they are to be employed. Are any such controls needed at this site ? - AAG

If any buildings, trailers, storage sheds, magazines, etc. have been or will be established on the site, they must be identified on the larger scale site map. - HWS

105.3: - Slopes, roads, pads, impoundment, ponds, maps, etc.

The maps need to identify disturbed areas which will be reclaimed and areas not to be reclaimed (slopes, roads, etc). A reclamation treatments map (1 inch = 200 feet) should be submitted. Also, typical cross sectional drawings of the slopes before and after reclamation should be provided (both reclaimed and non-reclaimed). - AAG

105.3.15:

A drawing and/or written description of how the natural drainage is/will be routed through the active mining area is requested. - DWH

R613-004-106: - Operation Plan

106.3: - Estimated acreages

The Division has estimated that the disturbed acreage at the site is approximately 9.44 acres. Please verify this acreage. The exact acreage will be important in estimating the reclamation surety. The acreage description must include a breakdown of state, private and federal property - AAG

106.4: - Nature of materials including waste/overburden and estimated tonnage

Waste fines were described as being 1/4" and between 30,000 - 70,000 tons. Can the operator narrow this down to less than 40,000 tons of variation? These fines could be used in reclamation. Is this figure representative of the amount of wastes generated per year, or the amount of total wastes to be generated over the life of the mine? - AAG

Please provide the Division with an evaluation of the composition of fines (physical and chemical characteristics). Are they adequate to be used for reclamation in lieu of topsoil? - HWS

106.5 - Existing soil types, location plant growth material

Operator needs to describe the areas which will be used for topsoil salvage, and the procedure to be used for the salvage. Also, an estimate of the amount of

topsoil to be salvaged needs to be provided (depth, volume, etc.). A description of the soils native to this site will be needed. This type of information can be obtained through the Soil Conservation Service or Forest Service. - HWS

106.6 - Plan for protecting & redepositing existing soils

A description of the sites (location) to be used for topsoil storage will be needed along with a plan to protect topsoil storage sites. - HWS

106.7 - Existing vegetative communities to establish revegetation success

An estimate of the existing plant cover and type of native vegetation community (specific plant species) needs to be provided. - HWS

106.8 - Depth to groundwater, overburden material & geologic setting

Please provide the Division with some estimate of the depth to groundwater, in the vicinity of the mine and the associated geologic strata. - AAG

Will the quarry intercept the groundwater table as the mine expands? Is the spring, as described in the plan, independent from the local groundwater which might be affected by the mine? If so please provide justification/reasoning for this determination. - DWH

106.9 - Location & size of ore & waste stockpiles, tailings & treatment ponds

The locations of waste and ore stockpiles are shown on the map, but sizes (i.e., volumes) should be clarified. - AAG

R613-004-107 - Operation Practices

107.1.12 - Disposal of trash, debris

Which sanitary landfill will trash generated at the mine site be taken to? - AAG

107.1.14 - Posting warning signs

Warning signs need to be posted at public access points to the mine site. - AAG

107.1.15 - Construction of berms, fences

A fence or berm along the border of the pit or highwalls may be needed unless public access is restricted by other means. Warning signs may need to be posted identifying the highwall hazard. This must be addressed by the operator in the plan and on the ground. - AAG

107.2 - Drainages to minimize damage

What steps have been or will be taken to minimize damage to impacted drainages during the operational phase of mining? - AAG

107.3 - Erosion Control/sediment controlled

The quarry and most of the associated mine area is situated in the ephemeral drainage as indicated on the map, this may cause problems for sediment control. Will a sediment impounding facility be necessary? What volumes of runoff can be expected to be generated down the canyon? - HWS

Untreated disturbed area drainage should not be allowed to mix with undisturbed area runoff. Sediment generated from the disturbed area(s) during runoff events must be adequately controlled with appropriate erosion control treatment(s). - DWH

107.6 - Reveg - Contemporaneous reclamation on areas when no longer needed

No discussion exists in the plan, describing contemporaneous reclamation. What procedure will the operator use for contemporaneous reclamation? Please specify areas and type of reclamation application to be used (topsoiling, regrading, mulching, type of seed, type of seed application, etc.). What time frame will be used for this type of procedure? - HWS

R613-004-109 - Impact Assessment

109.1 - Surface & groundwater systems

What will be the mining related impacts to the surface water during significant runoff events in the canyon? - DWH

109.4 - Slope stability, erosion control, air quality, public health & safety

What is or will be the stability of the mined slopes? Will dust from the pit benches and slopes be a problem? - AAG

Has the operator obtained a permit from the state Department of Air Quality Control? If not, the operator is advised to contact this Department to determine the need for an Air Quality permit. - DWH

109.5 - Actions proposed to mitigate any of above referenced impacts

What actions are proposed to mitigate the potential impacts as discussed in the comments under sections 109.1 and 109.4 above? - AAG and DWH

R613-004-110 - Reclamation Plan

110.1 - Current land use and postmining land use

What is the post-mining land use? What was the pre-mining land use? - AAG

110.2 - Roads, highwalls, slopes impoundments, drainages, pits, ponds, drill holes, etc. will be reclaimed

Please provide more specific details of how areas will be reclaimed. - AAG

What plans exist for any type of pit reclamation, revegetation of benches, roads, slopes, backfilling portions of the pit, etc.? Where will overburden material be placed (if any) and how will this material be revegetated? - HWS

How will the natural canyon drainage be restored/recontoured and stabilized following cessation of mining operations? - DWH

110.3 - Surface facilities to be left

Describe which roads are to be left and explain/justify why. - AAG

110.5 - Soil - Revegetation planting program

No detailed revegetation/seeding program exists in the plan. Please provide a description of plant species to be used, mulching, topsoiling, fertilizing, type of seed application (broadcast or drill seeding), anticipated timing and rates of application, etc. - HWS

R613-004-111 - Reclamation Practices

111.6 - Regrading to stable configuration

The operator indicates that, "after operations, topsoil and waste leveled, replaced where needed and seeded on the slopes". How will this material be placed on the slopes and which slopes are to be used? What depth of material will be placed? Will the waste fines be used in reclamation (revegetated without topsoil) or just regraded? What will the slope configuration be (i.e. slope angle)? - AAG

111.7 - Highwalls stabilized or cutting back to 45 degrees or less

Please provide information regarding slope stability of the slopes at 1/4:1 (~75°) - AAG

111.8 - Roads & pads when no longer needed

Describe which roads will be reclaimed and how. - AAG

111.10 - Trenches and pits reclaimed

Describe the final pit configuration - verbally and/or with drawings. - AAG

What (if any) type of reclamation does operator propose for pit? - HWS

111.11 - Structures & equipment buried or removed

How will the operator bury or remove structures associated with the mine? - AAG

111.12 - Topsoil redistribution on stable surface to minimize erosion and compaction

Where specifically does the operator plan to redistribute any stockpiled topsoil upon reclamation of the site?- HWS

R613-004-112 - Variance

No variances have been formally requested by the operator, but some variances may be needed such as: highwall >45° variance, slope revegetation variance, and soil salvage and redistribution. If certain areas of the site are not to be reclaimed, then the operator needs to request a variance and justify the request. - AAG

R613-004-113 - Surety

The operator has proposed to submit $33,000 for a reclamation surety. However, no itemized cost breakdown to support this figure was provided. Also, a more detailed reclamation plan with specific acreages and material volumes must be provided before an accurate reclamation estimate can be made. - AAG

The Division evaluates each plan on the basis of requirements which apply to two major phases of mining; the **operational phase** and **reclamation phase.** This is the reason for some of the redundancy in our questions/comments. We request that the operator please refer to the specific rule referenced when responding to the comments contained in this letter. Each comment contains, next to it, the initials of the Minerals technical staff person making the comment: DWH = Wayne Hedberg, HWS = Holland Shepherd, AAG = Tony Gallegos.

Please contact any of the individuals listed above regarding further assistance or clarification of the comments contained in this letter.

Thank you for providing us with the opportunity to comment on this plan of operations. For your convenience we have already sent a copy of this review letter along with a copy of our Large Mine Operations rules to the operator.

Sincerely,

Holland Shepherd
Senior Reclamation Specialist

jb
cc: Kiran Bhayani, DWQ
Harold E. Davis, Operator
Lowell Braxton, DOGM
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